A promising method for efficient analysis of secondary metabolites in plant extracts by a matrix-free Desorption/Ionization on self-Assembled Monolayer Surfaces (DIAMS) technique

Titre	A promising method for efficient analysis of secondary metabolites in plant extracts by a matrix-free Desorption/Ionization on self-Assembled Monolayer Surfaces (DIAMS) technique
Type de publication	Article de revue
Auteur	Babu, Suresh [1], Tsagueken, G [2], Ropivia, J. [3], Helesbeux, Jean-Jacques [4], Derbré, Séverine [5], Seraphin, Denis [6], Dias, Marylène [7], Rondeau, David [8], Levillain, Eric [9], Richomme, Pascal [10]
Pays	Allemagne
Editeur	Thieme
Ville	Stuttgart
Type	Article scientifique dans une revue à comité de lecture
Année	2009
Langue	Anglais
Date	2009/07
Numéro	9
Volume	75
Titre de la revue	Planta Medica
ISSN	1439-0221
Mots-clés	DIAMS method [11], self-assembled monolayers surfaces technique [12], Thalictrum flavum [13]

Résumé en anglais	Plants are one of the major sources for the biologically active organic compounds and play a key role in medicinal chemistry for the treatment of various diseases [1]. DIAMS method is able to determine the secondary metabolites of complex vegetal extracts. The high throughput analyses of vegetal extracts are relatively difficult to perform in MALDI mass spectrometry, since the preparation of the sample involves the co-crystallization of the matrix with the analyte. Moreover irradiation of the matrix ion produces many low-m/z vs high-intensity ions preventing the detection of low molecular weight molecules such as secondary metabolites. We have developed a matrix-free alternative to MALDI analyses by the means of an original desorption/ionization on *self-assembled monolayers surfaces* (DIAMS) technique [2]. Monolayers were formed by using novel thiophene and coumarin-triazole analogues that absorbs the laser beam at 337nm. We herein disclose our findings with respect to the DIAMS method which is well suitable for the detection and quantification of the low molecular weight compounds that are present in plant extracts. Some of the isoquinoline alkaloids from the root extracts of *Thalictrum flavum* have been detected by the DIAMS method. Indeed, this technique would be promising suitable for the qualitative and quantitative analysis of polar and non-polar organic components that are widely distributed in the plants, without any preliminary chromatographic resolution [3].
URL de la notice	http://okina.univ-angers.fr/publications/ua5 [14]
DOI	10.1055/s-0029-1234850 [15]
Lien vers le document	http://dx.doi.org/10.1055/s-0029-1234850 [15]

Liens

[1] http://okina.univ-angers.fr/publications?f[author]=258
[2] http://okina.univ-angers.fr/publications?f[author]=37
[3] http://okina.univ-angers.fr/publications?f[author]=3060
[4] http://okina.univ-angers.fr/jeanjacques.helesbeux/publications
[5] http://okina.univ-angers.fr/severine.derbre/publications
[6] http://okina.univ-angers.fr/denis.seraphin/publications
[7] http://okina.univ-angers.fr/m.dias/publications
[8] http://okina.univ-angers.fr/publications?f[author]=43
[9] http://okina.univ-angers.fr/eric.levillain/publications
[10] http://okina.univ-angers.fr/p.richomme/publications
[11] http://okina.univ-angers.fr/publications?f[keyword]=19727
[12] http://okina.univ-angers.fr/publications?f[keyword]=19726
[13] http://okina.univ-angers.fr/publications?f[keyword]=16899
[14] http://okina.univ-angers.fr/publications/ua5
[15] http://dx.doi.org/10.1055/s-0029-1234850